

Full list of publications

ISI Journals

- Arend M**, Schuldt B, Link RM, Patthey R, Hoch G, Kahmen A (accepted) Rapid hydraulic collapse as cause of drought-induced mortality in conifers. *Proceedings of the National Academy of Sciences USA*
- Cuervo-Alarcon L, **Arend M**, Müller M, Sperisen C, Finkeldey R, Krutovsky KV (2021) A candidate gene association analysis identifies SNPs potentially involved in drought tolerance in European beech (*Fagus sylvatica* L.). *Scientific Reports* 11:2386, doi.org/10.1038/s41598-021-81594-w
- Gessler A, Bottero A, Marshall JD, **Arend M** (2020) The way back: recovery of trees from drought and its implication for acclimation. *New Phytologist*, doi: 10.1111/nph.16703
- Schuldt B, Buras A, **Arend M**, Vitasse Y, Beierkuhnlein C, Damm A, Gharun M, Grams TEE, Hauck M, Hajek P, Hartmann H, Hiltbrunner E, Hoch G, Holloway-Phillips M, Körner C, Larysch E, Leubbe T, Nelson DB, Raming A, Rigling A, Rose L, Ruehr N, Schumann K, Weiser F, Werner C, Wohlgemuth T, Zang CS, Kahmen A (2020) A first assessment of the impact of the extreme 2018 summer drought on Central European forests. *Basic and Applied Ecology* 45: 86-103
- Cernusak LA, Goldsmith GR, **Arend M**, Siegwolf RTW (2019) Effect of vapor pressure deficit on gas exchange in wild-type and abscisic acid-insensitive plants. *Plant Physiology* 181: 1573-1586
- Cuervo-Alarcon L, **Arend M**, Müller M, Sperisen C, Finkeldey R, Krutovsky KV (2018) Genetic variation and signatures of natural selection in populations of European beech (*Fagus sylvatica* L.) along precipitation gradients. *Tree Genetics and Genomes* 14: 84, doi.org/10.1007/s11295-018-1297-2
- Müller M, Cuervo-Alarcon L, Gailing O, Rajendra KC, Chhetri MS, Seifert S, **Arend M**, Krutovsky KV, Finkeldey R (2018) Genetic variation of European beech populations and their progeny from northeast Germany to southwest Switzerland. *Forests* 9: 469, doi:10.3390/f9080469
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- Pflug E, Buchmann N, Siegwolf RTW, Schaub M, Rigling A, **Arend M** (2018) Resilient response of European beech (*Fagus sylvatica* L.) to severe summer drought and drought release. *Frontiers in Plant Science* 9, doi: 10.3389/fpls.2018.00187
- Goldsmith GR, Lehmann MM, Cernusak LA, **Arend M**, Siegwolf RTW (2017) Inferring foliar water uptake using stable isotopes of water. *Oecologia* 184: 763-766
- Liu J, **Arend M**, Yang W, Schaub M, Gessler A, Ni Y, Jiang Z, Li MH (2017) The priority of carbon storage over shoot growth in *Fagus sylvatica* L. saplings modulated by soil types. *Scientific Reports* 7, doi: 10.1038/srep42462
- Hagedorn F, Joseph J, Peter M, Luster J, Pritsch K, Geppert U, Kerner R, Molinier V, Egli S, Schaub M, Liu JF, Li M, Sever K, Weiler M, Siegwolf RTW, Gessler A, **Arend M** (2016) Recovery of trees from drought depends on belowground sink control. *Nature Plants* 16111, doi: 10.1038/nplants.2016.111
- Peter M, Kohler A, Ohm R, Kuo A, Krützmann J, Nehls U, Meier B, Sperisen C, **Arend M**, Grisel N, Maire R, Egli S, Kipfer T, Molinier V, Murat C, Tisserant E, Martin F, LaButti K, Haridas S, Copeland A, Clum A, Tritt A, Lipzen A, Choi C, Lindquist E, Grigoriev I, Barry K, Mihaltcheva S, Binder M, Crous P, Quandt CA, Spatafora J, Henrissat B, Pöggeler S, Morin E (2016) Ectomycorrhizal ecology is imprinted in the genome of the dominant symbiotic fungus *Cenococcum geophilum*. *Nature Communications* 7: 12662, doi:10.1038/ncomms12662
- Arend M**, Sever K, Pflug E, Gessler A, Schaub M (2016) Seasonal photosynthetic response of European beech to severe summer drought: limitation, recovery and post-drought stimulation. *Agricultural and Forest Meteorology* 220: 83-89
- Arend M**, Gessler A, Schaub M (2016) The influence of the soil on spring and autumn phenology in European beech. *Tree Physiology* 36: 78-85
- Hommel R, Siegwolf RTW, Zavadlav S, **Arend M**, Schaub M, Galiano G, Haeni M, Kayler Z, Gessler A (2016) Impact of interspecific competition and drought on new assimilate allocation within trees. *Plant Biology*, doi: 10.1111/plb.12461
- Vollenweider P, Menard T, **Arend M**, Kuster TM, Günthardt-Goerg M (2015) Structural changes associated with drought stress symptoms in foliage of Central European oaks. *Trees - Structure and Function*, doi: 10.1007/s00468-015-1329-6

- Pflug E, Siegwolf RTW, Buchmann N, Dobbertin M, Kuster TM, Günthardt-Goerg MS, **Arend M** (2015) Growth cessation uncouples isotopic signals in leaves and tree rings of drought exposed oak trees. *Tree Physiology* 35: 1095-1105
- Brunner I, Herzog C, Dawes M, **Arend M**, Sperisen C (2015) How tree roots respond to drought. *Frontiers in Plant Science*, doi 10.3389/fpls.2015.00547
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- Zimmermann U, Bitter R, Schüttler A, Ehrenberger W, Rüger S, Bramley H, Siddique K, **Arend M**, Bader M (2013) Advanced plant-based, internet-sensor technology gives new insights into hydraulic plant functioning. *Acta Horticulturae* 991: 313-320
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- Günthardt-Goerg MS, **Arend M**, Kuster TM, Vollenweider P (2013) Foliage response of young central European oaks to air warming, drought and soil type. *Plant Biology* 15: 185-197
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- Arend M**, Kuster TM, Günthardt-Goerg MS, Dobbertin M (2011) Provenance-specific growth responses to drought and air warming in three European oak species (*Quercus robur*, *Q. petraea*, *Q. pubescens*). *Tree Physiology* 31: 287-297
- Rüger S, Ehrenberger W, **Arend M**, Gessner P, Zimmermann G, Zimmermann D, Bentrup FW, Nadler A, Raveh E, Sukhorukov VL, Zimmermann U (2010) Comparative monitoring of temporal and spatial changes in tree water status using the non-invasive leaf patch clamp pressure probe and the pressure bomb. *Agricultural Water Management* 98: 283-290
- (**Arend M**, Schnitzler J, Ehrling B, Hänsch R, Lange T, Rennenberg H, Himmelbach A, Grill E, Fromm J (2009) Expression of the Arabidopsis mutant *abi1* gene alters ABA sensitivity, stomatal development and growth in Grey poplars (*Populus x canescens* (Ait.) Sm.). *Plant Physiology* 151: 2110-2119
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Wind C, **Arend M**, Fromm J (2004) Potassium-dependent growth in poplar. *Plant Biology* 6: 30-37

Schnitzler JP, Zimmer I, Bachl A, **Arend M**, Fromm J, Fischbach RJ (2004) Biochemical properties of isoprene synthase in poplar (*P. x canescens*). *Planta* 222: 777-786

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Brummer M, **Arend M**, Fromm J, Schlenzig A, Osswald WF (2002) Ultrastructural changes and immunocytochemical localization of the elicitor quercetin in *Quercus robur* L. roots infected with *Phytophthora quercina*. *Physiological and Molecular Plant Pathology* 61: 109-120

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Gugerli F, Frank A, Rellstab C, Pluess AR, Moser B, **Arend M**, Sperisen C, Wohlgemuth T, Heiri C (2016) Genetische Variation und lokale Anpassung bei Waldbaumarten im Zeichen des Klimawandels. In: Pluess AR, Augustin S, Brang P (Red) *Wald im Klimawandel. Grundlagen für Adaptionsstrategien*. Haupt Verlag Bern, Stuttgart, Wien. 93-114 p.

Sperisen C, Pluess A, **Arend M**, Brang P, Gugerli F, Heiri C (2016) Erhaltung genetischer Ressourcen im Schweizer Wald: Status quo und Handlungsbedarf angesichts des Klimawandels. In: Pluess AR, Augustin S, Brang P (Red) *Wald im Klimawandel. Grundlagen für Adaptionsstrategien*. Haupt Verlag Bern, Stuttgart, Wien. 367-384 p.

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Mühlethaler U, Pluess AR, Heiri C, Weber P, Moser B, **Arend M*** (2018) Swiss National Report on marginal populations of forest trees and forest genetic resources. *COST Action FP1202 Strengthening conservation: a key issue for adaptation of marginal/peripheral populations of forest tree to climate change in Europe*.

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Schaub M, **Arend M** (2014) Sind heimische Buchen für die klimagerechte Waldwirtschaft geeignet? *Zürcher Wald* 3: 9-10

Bonfils P, Kuster TM, **Arend M**, Junod P, Guenthardt-Goerg MS (2013) Die Eiche ist robust. *Wald Holz* 94: 27-31

Bonfils P, **Arend M**, Kuster TM, Junod P, Guenthardt-Goerg MS (2013) Die Eiche reagiert flexibel. *Wald Holz* 94: 29-33

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